

- 17 -

Claims:

1. A method of preparing a blended reagent in an automated biological reaction apparatus including:
 - ascertaining whether a blended reagent is required,
 - 5 preparing the blended reagent before its application is required.
2. The method of claim 1 wherein the apparatus ascertains the components required for preparation of the blended reagent are available by automatically determining the contents of reagent containers on the apparatus.
3. The method of claim 1 or 2 wherein the apparatus determines whether blended
10 reagent is required by automatically determining the protocol required for each slide loaded in the apparatus, and determining the reagents required from the protocols.
4. The method of any one of claims 1-3 wherein reagent is moved by a dispenser attached to a robotic arm from the reagent containers to the mixing vial.
- 15 5. The method of one of the preceding claims wherein the dispenser mixes components of the blended reagent together in a mixing vial.
6. The method of claim 5 wherein the mixing is accomplished by dispensing the components of the reagent into the mixing vial, withdrawing fluid from the mixing vial, and re-dispensing the fluid into the mixing vial to promote mixing of the
20 components of the reagent.
7. The method of any preceding claim wherein the step of ascertaining whether a blended reagent is required involves requesting information from a remote computer holding information regarding the protocol to be applied to the slides.
8. A method of scheduling application of reagent to a number of slides in an
25 automated biological reaction apparatus including:
 - grouping at least one group of slides together as a batch

- 18 -

ascertaining whether a blended reagent is to be applied to any slide within the batch; and

scheduling the step of preparing the blended reagent before the step of applying the blended reagent to the slide.

- 5 9. The method of claim 8 wherein the scheduling involves dividing steps to be undertaken in the batch ascertaining which step requires the application of blended reagent, and inserting the step of producing the blended reagent before the application of the reagent is required.
10. The method of claim 9 wherein a number of trays are loaded into the apparatus, each tray holding a plurality of slides.
11. The method of claim 10 wherein the slides of each tray are grouped together as a batch.
12. The claim of claim 11 wherein the step of extracting the reagent to make the blended reagent is classified a batch and scheduled in with the other batches.
- 15 13. An automated biological reaction apparatus having a mixing vessel, reagent containers, a robotic arm having a dispenser for dispensing fluid from reagent containers to slides or mixing vials, a mixing vial and a controlling computer.
14. A mixing vial having a mount, a plurality of mixing chambers, and an identification means.